

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-013639**Date Inspected:** 18-Apr-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspectors: Mr. Chen Xi, Mr. Liu Hua Jie, Mr. Geng Wei

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 13

This QA Inspector observed ZPMC welder Mr. Li Zu Jun, stencil 052696 is using flux cored welding procedure WPS-345-FCAW-2G(2F)-Repair to make traveler rail repair weld 20TR2-012-013 in accordance with a weld repair document which has not had a tracking number assigned. The reason for this repair is due to ultrasonic rejections. This QA Inspector observed ZPMC QC Inspector Mr. Guo Yuan Ting is monitoring this welding and that Mr. Li Zu Jun appears to be certified to make this weld. This QA Inspector observed Mr. Li Zu Jun used a torch to preheat the base material prior to commencement of welding and a welding current of approximately 290 amps and 30.0 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wu Wanyong, stencil 050242 is using flux cored welding procedure WPS-345-FCAW-2G(2F)-Repair to make traveler rail repair weld 20TR2-006-011 in accordance with a weld repair document which has not had a tracking number assigned. The reason for this repair is due to

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ultrasonic rejections. This QA Inspector observed ZPMC QC Inspector Mr. Guo Yuan Ting is monitoring this welding and that Mr. Wu Wanyong appears to be certified to make this weld. This QA Inspector observed a welding current of approximately 295 amps and 30.0 volts. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Yang Yunfei, stencil 215553 is using shielded metal welding process WPS-B-T-4213-TC-U4b-2 to make OBG segment 11DE weld SEG072D-145. This QA Inspector observed that Mr. Yang Yunfei has a welding current of approximately 180 amps and the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zhenbing, stencil 216086 is using shielded metal welding process WPS-B-T-4213-TC-U4b-2 to make OBG segment 11DE weld SEG072D-145. This QA Inspector observed that Mr. Wang Zhenbing has a welding current of approximately 180 amps and the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

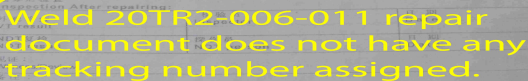
This QA Inspector observed ZPMC welder Mr. Ji Hongwei, stencil 058245 is using flux cored welding process WPS-B-T-2232-TC-U4b-Fto make OBG segment 12BW corner assembly weld CA3010-004. This QA Inspector observed a welding current of approximately 245 amps and 28.0 volts. This QA Inspector observed Mr. Ji Hongwei appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Hong Liang, stencil 200113 is using shielded metal welding process WPS-B-P-2214-TC-U4b-FCM-1 to make OBG weld SEG3003M-007 segment 12BE weld SEG3003M-007 at panel point PP115. This QA Inspector observed ZPMC QC Inspector Mr. Guo Xing has recorded a welding current of 158 amps and Mr. Hong Liang appears to be certified to make this weld 4G position (overhead) weld. Items observed on this date appeared to generally comply with applicable contract documents.

### Segment Assembly

ABF issued "Inspection Notification Sheet" number 04182010-1 item #1 informing QA that on 4-18-2010 at 13:00 hours ABF Inspectors will be performing ultrasonic (UT) inspections of OBG segment 7DW deck plate to counterweight side edge plate weld CA041-004. This weld is located in the trial assembly area. This QA Inspector observed ABF/Sense UT Inspectors have marked locations Y=3190, Y=7235, Y=10800, Y=10820 and Y=11860 as being UT rejected and the remainder of the weld repairs are identified as being UT acceptable. This QA Inspector performed ultrasonic inspections at the forty-four weld repair locations as listed on the UT report data sheets for detection of longitudinal and planar transverse indications utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and locations Y=2950, Y=4650 and Y=7165 appear to have unacceptable UT indications and the remainder of the weld appears to comply with project specifications. Note: These inspections are being documented and tracked on "Verification Witness Request" documents and no TL-6027 UT report was issued for these inspections

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See Above.

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

## Quality Assurance Inspector

QA Reviewer